

Bat Communities at Abandoned Railroad Tunnels in Chesapeake and Ohio Canal National Historical Park

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Introduction

National Park Service lands

- Historical
- Recreational
- Natural

Potential conflicts among resource management goals

C & O Canal National Historical Park

Western Maryland Railway

- Parallels much of C & O Canal
- Operated ~1900 – 1975
- Conversion to recreational trail
- Located mostly on Maryland state lands

Next construction phases include

- 3 abandoned railroad tunnels
- National Park Service land

Tunnel hibernacula

Indigo Tunnel (1,300 m in length)

One of the largest hibernating bat communities in Maryland

~ 150 bats, 3 common species

Stickpile Tunnel (520 m in length)

~ 16 bats, 2 common species

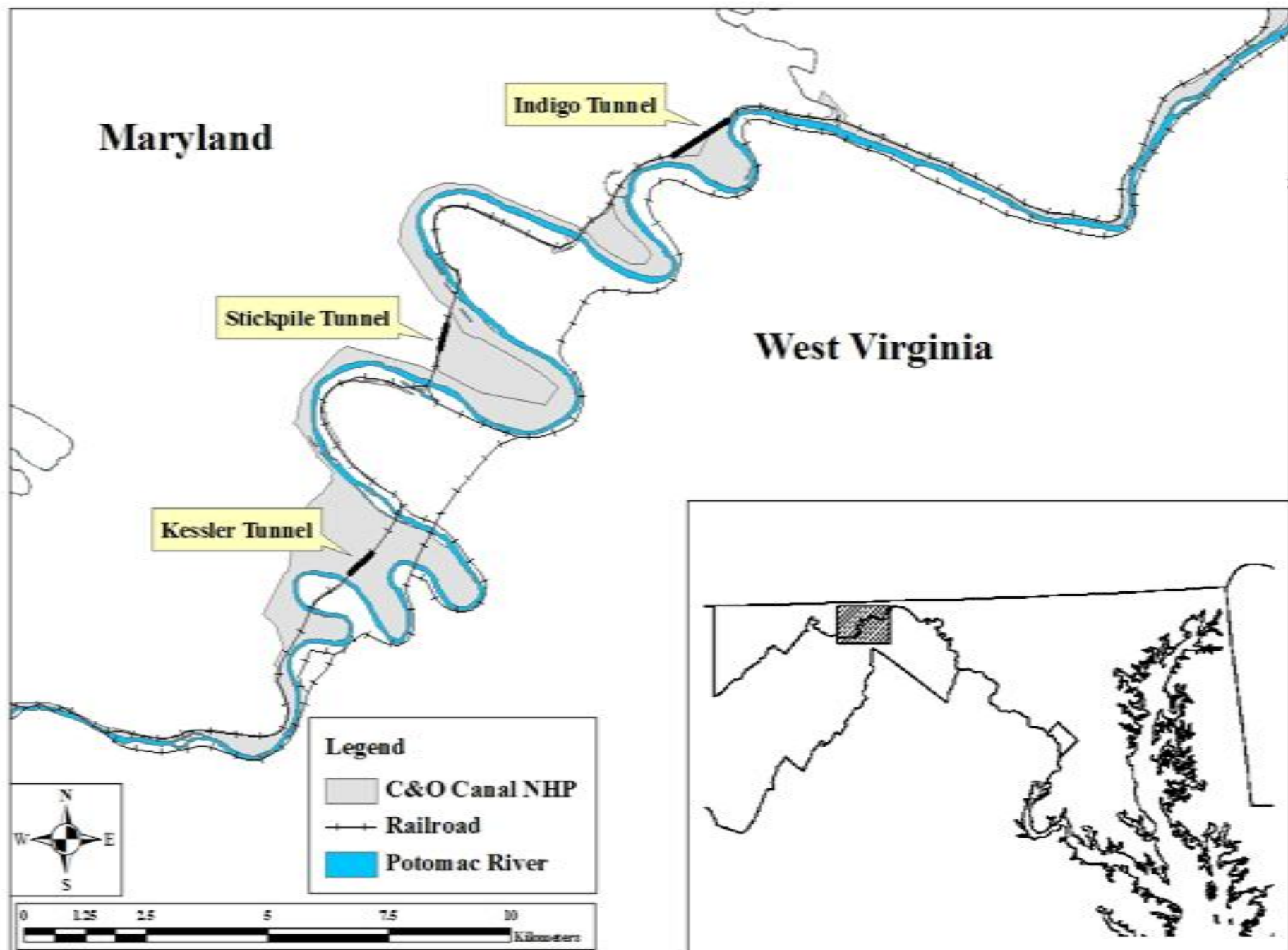
Kessler Tunnel (560 m in length)

~ 50 bats, 4 common species

Objective

Document bat species presence and relative frequencies at the 3 tunnels

- Spring emergence
 - Exiting hibernation
- Autumn swarming
 - Mating
 - Entering hibernation











Methods

Indigo Tunnel

- Spring 2006, 2007
- Autumn 2006

Stickpile and Kessler tunnels

- Spring 2007
- Autumn 2007

1 – 3 nights/week

Harp traps



INDIGO
TUNNEL



Results

Indigo Tunnel

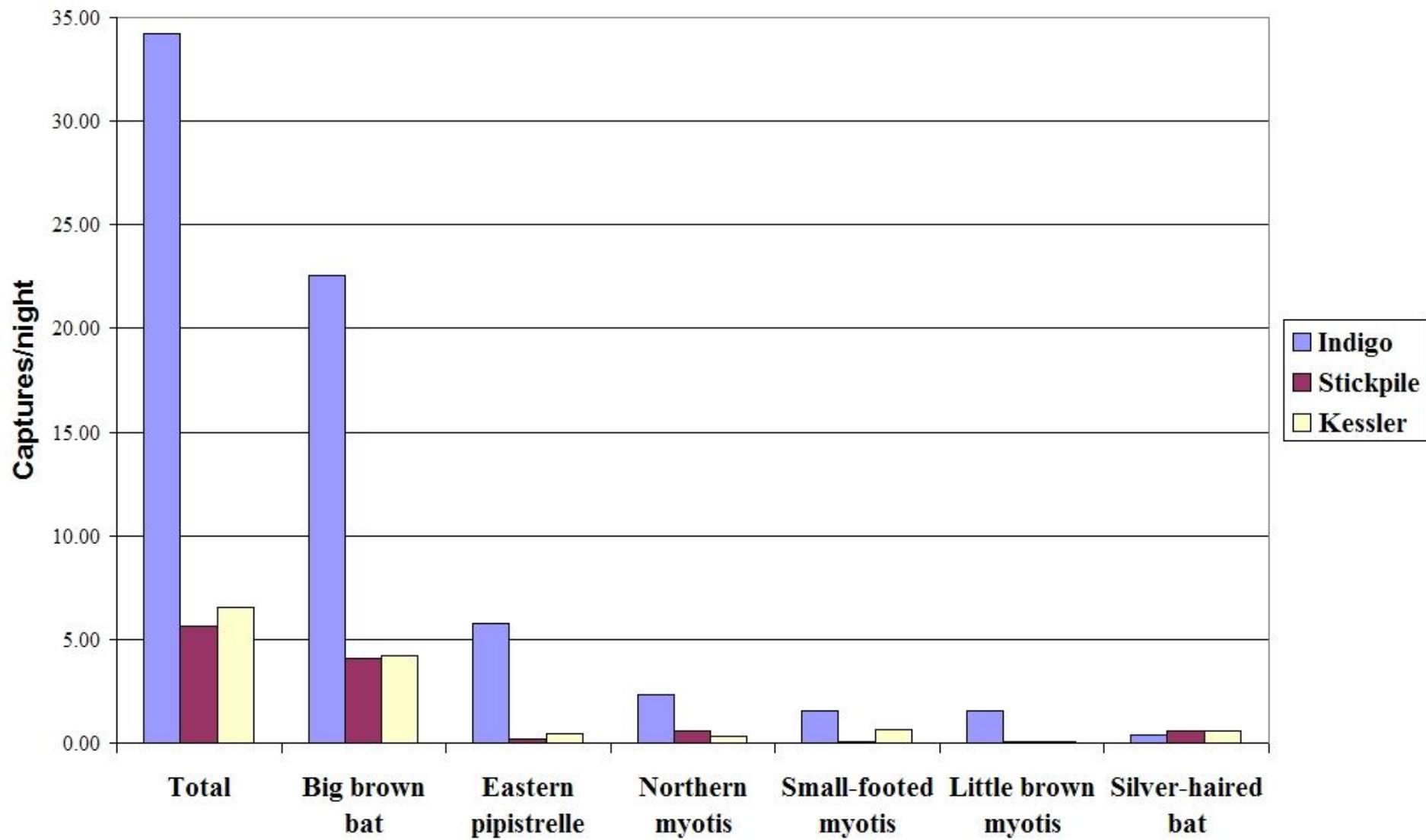
- 63 sample nights
- 32.7 bats/night
 - 97 eastern small-footed myotis
 - 1 Indiana myotis

Stickpile Tunnel

- 18 sample nights
- 6.6 bats/night
 - 1 eastern small-footed myotis

Kessler Tunnel

- 17 sample nights
- 7.5 bats/night
 - 11 eastern small-footed myotis



Endangered species



Eastern small-footed myotis
*Maryland state-endangered



Indiana myotis
* Federally-endangered

Discussion

- 1 Indiana myotis
 - Indigo Tunnel
 - Autumn swarming site
 - Hibernaculum?
- 109 Eastern small-footed myotis
 - Indigo and Kessler tunnels
 - Autumn swarming sites
 - Hibernacula – largest in state







BIG SAVAGE
1911



Discussion

C & O Canal NHP railroad tunnels:

Balancing resources

Historical: railroad

Recreational: rail-trail

Natural: significant bat hibernacula, mating sites

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